

CLAIMS

1. A communication system comprising:

a processing means provided on a transmission
line, performing a predetermined processing using a
5 signal transmitted over said transmission line,
monitoring a state of the related processing, and
transmitting a monitoring result response signal
indicating the result of said monitoring via said
transmission line in response to a monitoring result
10 request signal received via said transmission line, and

a monitoring result collecting means for
transmitting said monitoring result request signal to
said processing means via said transmission line and
receiving said monitoring result response signal from
15 said processing means, wherein

said monitoring result collecting means changes
at least one of a transmission route of said monitoring
result request signal to said processing means and a
reception route of said monitoring result request signal
20 from said processing means where it does not receive said
monitoring result response signal after an elapse of a
predetermined time after transmitting said monitoring
result request signal and performs the transmission and
reception of said monitoring result request signal and
25 said monitoring result response signal by using the route

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after the related change.

2. A communication system as set forth in claim 1,
wherein

said monitoring result collecting means
5 transmits said monitoring result request signal
containing information indicating the reception route of
said monitoring result response signal to said processing
means, and

said processing means transmits said monitoring
10 result response signal to said monitoring result
collecting means via said reception route based on the
received monitoring result request signal.

3. A communication system as set forth in claim 1,
wherein said monitoring result collecting means transmits
15 said monitoring result request signal to said processing
means by a plurality of different transmission routes
without waiting for a decision of reception of said
monitoring result response signal.

4. A communication system as set forth in claim 1,
20 wherein said processing means transmits said monitoring
result response signal to said monitoring result
collecting means by a plurality of different reception
routes in response to said received monitoring result
request signal.

25 5. A communication system as set forth in claim 1,

wherein said monitoring result collecting means

stores useable routes among routes of said
transmission line for transmitting and receiving said
monitoring result request signal and said monitoring

5 result response signal in advance,

selects one route among the related stored
useable routes, and

performs the transmission and reception of said
monitoring result request signal and said monitoring

10 result response signal by using the related selected
route.

6. A communication apparatus performing a
predetermined processing using a signal transmitted over
a transmission line, transmitting a monitoring result
15 request signal to a processor for monitoring the state of
the related processing via said transmission line, and
receiving a monitoring result response signal from said
processor via said transmission line, wherein,

when said monitoring result response signal is
20 not received after an elapse of a predetermined time from
the transmission of said monitoring result request
signal, at least one of a transmission route of said
monitoring result request signal to said processor and a
reception route of said monitoring result response signal
25 from said processor is changed, and the transmission and

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reception of said monitoring result request signal and said monitoring result response signal are carried out by using the route after the related change.

7. A communication apparatus as set forth in claim 5 6, which transmits said monitoring result request signal containing information indicating the reception route of said monitoring result response signal to said processor and receives said monitoring result response signal from said processor via said reception route.

10 8. A communication apparatus as set forth in claim 6, which transmits said monitoring result request signal to said processing means by a plurality of different transmission routes without waiting for a decision of reception of said monitoring result response signal.

15 9. A communication apparatus as set forth in claim 6, which

stores in advance useable routes among routes of said transmission line for transmitting and receiving said monitoring result request signal and said monitoring result response signal,

20 selects one route among the related stored useable routes, and performs the transmission and reception of said monitoring result request signal and said monitoring result response signal by using the 25 related selected route.

10. A communication method comprising the steps of
performing predetermined processing using a
signal transmitted a transmission line,

transmitting a monitoring result request signal
5 to a processor for monitoring a state of the related
processing via said transmission line,

changing at least one of a transmission route
of said monitoring result request signal to said
processor and a reception route of said monitoring result
10 response signal from said processor when said monitoring
result response signal is not received after an elapse of
a predetermined time from the transmission of said
monitoring result request signal, and

performing the transmission and reception of
15 said monitoring result request signal and said monitoring
result response signal by using the route after the
related change.

11. A communication method as set forth in claim
10, further comprising the steps of
20 transmitting said monitoring result request
signal containing information indicating the reception
route of said monitoring result response signal to said
processor and

receiving said monitoring result response
25 signal from said processor via said reception route.

12. A communication method as set forth in claim
10, further comprising the step transmitting said
monitoring result request signal to said processor by a
plurality of different transmission routes without
5 waiting for a decision of reception of said monitoring
result response signal.

13. A communication method as set forth in claim
11, further comprising the steps of
specifying in advance useable routes among
10 routes of said transmission line for transmitting and
receiving said monitoring result request signal and said
monitoring result response signal,
selecting one route among the related stored
useable routes, and
15 performing the transmission and reception of
said monitoring result request signal and said monitoring
result response signal by using the related selected
route.